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Global

Commodities | Strategy

Turn and face the change

The evolving nature of automotive sector metals demand

- After the past decade of generally strong metals demand growth from the auto industry, recent months have seen the sector become a source of concern due to the potential for a broad based slowdown.
- However, we are not overly concerned about the likelihood of a sharper slowdown in the coming year, though we do not expect a rapid resurgence in growth either.
- In our view an incrementally more dovish FOMC should combine with the Chinese authorities' recent tilt towards more supportive policy to stabilise auto sales in 2019.
- Further out, however, the sheer number of moving parts means detailed forecasts come with a wide margin for error.
- Indeed, not only are there questions about the impact of changing powertrain technologies but also the potential for ridesharing and increased automation to significantly increase vehicle utilisation.
- For sales, this presents a double edged sword of reduced fleet sizes but shorter vehicle lifecycles.
- Absolute sales volumes will continue to be the key determinant of aggregate commodities demand. Investors, however, will also need to distinguish between those commodities which have a high degree of demand leverage to very specific future scenarios versus those which should benefit from a general shift towards greater electrification and automation.

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Turn and face the change

The evolving nature of automotive sector metals demand

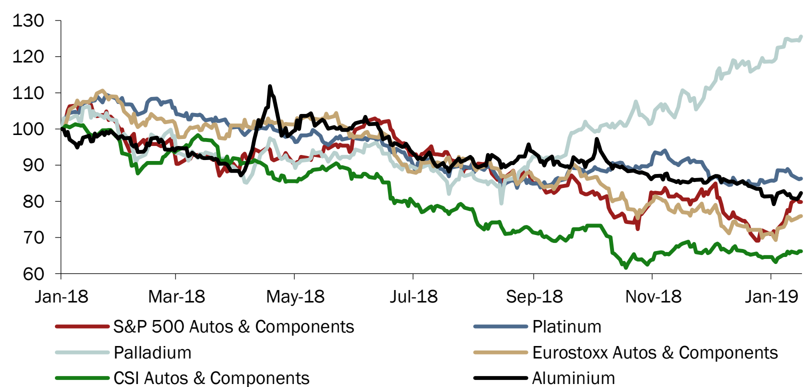
Recent weeks have seen numerous restructuring announcements and strategy updates from global auto makers. This comes against a backdrop of struggling sectoral equity performance, with the ongoing US-China trade negotiations and wider concerns about the outlook for global growth both weighing on investor sentiment. Indeed, looking across the major regions, the S&P 500 autos and component makers sub-sector declined 30% in 2018, while the equivalent Eurostoxx basket fell 29% and China's CSI autos and component makers index slid 36% over the course of the year.

In light of this, it would be easy to assume that the sector at large is struggling, with sharply declining auto sales presenting a headwind for associated commodity markets. However, given palladium's gearing to the sector, with autocatalysts accounting for c.85% of demand, its recent rally to historic highs above $1,400/oz would seem to fly in the face of such an assumption. Admittedly, there is far more to palladium's rally than a straight auto sales story – as discussed in our 2019 PGM outlook[1] – but the key point is that current auto market developments are rather more nuanced than a skim of recent headlines might suggest.

Given the sector's importance for commodities demand, we use this note to run through the current state of play for headline global auto sales, how the composition of these sales is changing and what some of the sector's potential structural changes may mean for commodities markets.

Palladium's rally stands in stark contrast to the performance of auto equities and other associated commodities

Global auto sector equities were on the slide in 2018



Source: CME, LME, S&P, STOXX, Bloomberg, ICBC Standard

Global sales running out of steam

Starting with the global picture, the Bloomberg Intelligence series of aggregate monthly sales across major markets shows a year-on-year (y/y) contraction of -3.4% through November, with the full year figure likely closer to -4% y/y once all December figures have been reported. This represents a material slowdown from 2017's +1.2% y/y growth and 2016's +6.9% y/y expansion; at which point total sales were briefly back above their pre-financial crisis trend.

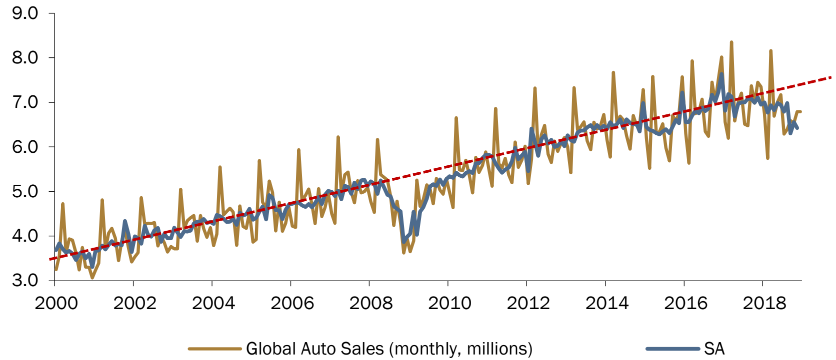
In part, this slowdown is of course cyclical but certain structural issues also need to be noted. Principally, that mature developed markets now look to have questionable growth prospects. Having recovered from their 2009 low of

[1] https://www.icbcstandardbank.com/CorporateSite/ResearchStrategy/Reports

10.4million vehicles, US auto sales broke above 17million vehicles in 2015 and have essentially stagnated since. In broad terms, this is a repeat of what happened after their previous peak at 17million vehicles in 2005.

After a decade long expansion, auto sector sales growth is coming under question

Global sales turn negative in 2018

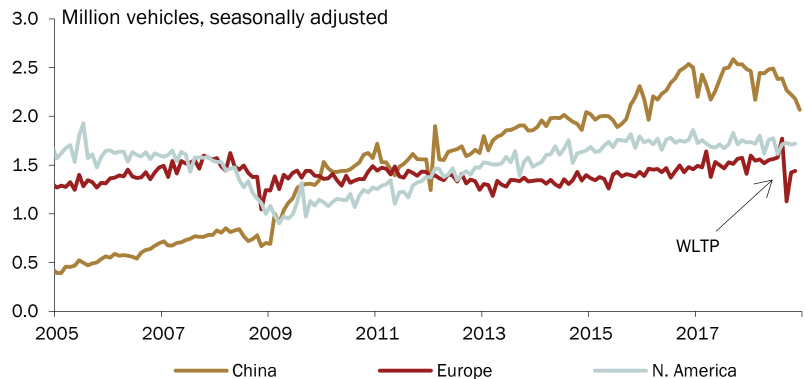


Source: Wards, CAAM, Eurostat, Bloomberg, ICBC Standard

In Europe also, sales have stalled just above 15million vehicles in the past two years, as they come within touching distance of the 2007 pre-crisis high of 15.6million vehicles. That said, the Q4 picture was muddied by distortions from the introduction of Worldwide Harmonised Light Vehicle Test Procedures (WLTP). This has applied to new models since 2017 but it was only from September 2018 that all European models were included. As a result, dealers heavily incentivised sales of old models in front of the new rules coming into full force – hence August registrations rising 31% y/y, before they crashed -24% y/y in September.

But, so far, the slowdown is really just a China story

US and Europe stagnating around pre-crisis highs, while China wobbles



Source: Wards, CAAM, Eurostat, Bloomberg, ICBC Standard

Accompanying this post crisis recovery in the US and Europe has been the continued expansion – until this year – in Chinese vehicle sales. From their last stutter in Q3 2015 to their recent peak in Q4 2017, monthly sales rose by 60%. In simple volume terms, this has been the single biggest contributor to global sales growth.

A cyclical turning point or structural peak?

At the beginning to 2019, however, neither the US nor European market has yet turned downwards. Although there have been significant contractions in markets such as Turkey (sales -37% y/y), these have been idiosyncratic and other emerging markets continue to display strong growth: for example the Society of Indian Automobile Manufacturers reported 14% y/y sales growth across all vehicle

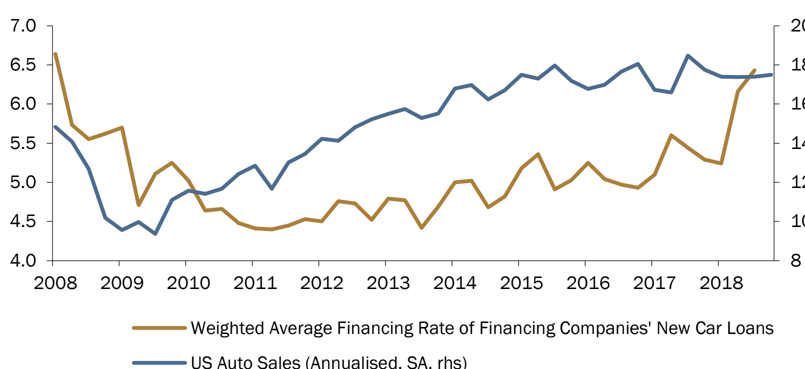
formats in FY 2017/18[2]. In fact, amongst the major markets it is only China that has materially declined to date.

In keeping with this, recent company announcements from both Ford[3] and Jaguar Land Rover[4] have underlined that it is in China where their businesses have faced the most significant headwinds. Rather than a broad based global contraction in auto sales, the current market situation can be better summarised as:

Divergent emerging market sales performance has largely been in keeping with respective macro drivers

- Stagnant sales in major developed markets, with concerns that a downturn is around the corner, especially in the US where rising financing rates may curb consumers' purchasing appetite.
- Divergent sales performance in emerging markets, in keeping with broader macroeconomic performance.
- Contraction in China and significant uncertainty about the near-term outlook, subject to the potential introduction of supportive policy measures.

To date, US sales have been resilient in the face of rising financing rates



Source: Federal Reserve, Wards, Bloomberg, ICBC Standard

It is in this context that General Motors comment about their restructuring should be understood, *"actions are being taken while the industry and economy remain strong"*[5]. In short, outside of China's slowdown, automakers appear to be to trying to get ahead of changes in the wider business cycle, so that they are better set-up to take advantage of ongoing structural shifts within the industry.

As a result, we split questions about the sector into two categories. First, those outside of automakers' control; namely the general demand outlook, with particular reference to China and the US. Second, those within automakers control, essentially how they can align their production to benefit from the industry's changing structure.

Policy headwinds go into reverse

Regarding the first of these, a full discussion of the potential for a sharper global slowdown lies beyond the scope of this note but our summary view is that, while a plausible scenario, it remains outside of our base case. In short, we think a more

[2] http://www.siamindia.com/statistics.aspx?mpgid=8&pgidtrail=14

[3] https://s22.q4cdn.com/857684434/files/doc_news/2019/01/11/EN_Ford_China_2018_Full_Year_sales_release.pdf

[4] https://www.jaguarlandrover.com/news/2018/12/strong-sales-growth-north-america-offset-ongoing-challenges-china

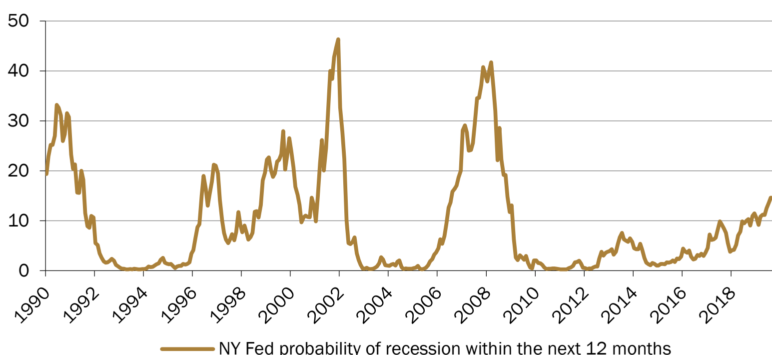
[5] https://media.gm.com/content/dam/Media/gmcom/investor/2019/jan/Press-Release-1-11-19.pdf

cautious FOMC and incrementally supportive policy measures from China's authorities will deliver a soft landing in 2019.

A flattening yield curve implies increased market implied probability of a recession but the FOMC is already tilting in a dovish direction

In the US, the New York Federal Reserve's yield curve derived model for implied recession probability now puts the risk of a recession within the next year at above 20%. But, as discussed in our recent gold market report[6], FOMC members have already begun to take a softer tone on the pace of future rate hikes and the Fed Funds Futures market now heavily discounts the probability of further hikes in 2019, implying just c.20% probability of any hikes occurring within the year.

NY Fed model now puts recession probability above 20%



Source: NY Fed, Bloomberg, ICBC Standard

We expect only a mild -1% y/y decline in 2019 US auto sales

Given that inflation is still relatively subdued and inflation expectations are contained, there appears little need for the Fed to maintain its recently metronomic pace of rate hikes against a backdrop of global growth concerns and volatile financial markets. Although the US expansion that has been running since 2010 is now fairly long in the tooth, a more dovish Fed and still strong consumer confidence should allow it to endure a little longer yet. As a result of which, we expect only a mild -1% y/y decline in 2019 US auto sales.

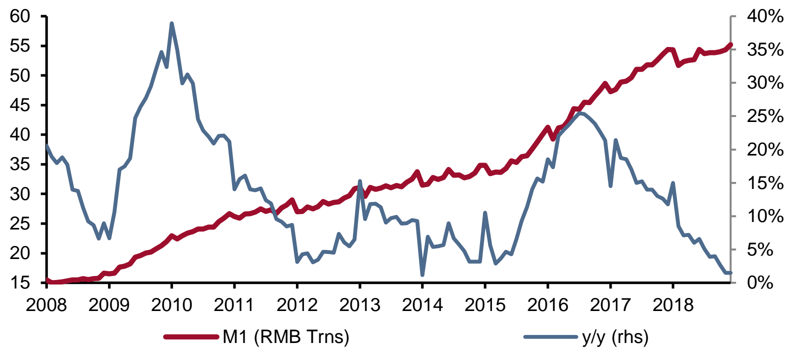
The major risks to this would be for volatile financial markets to create a negative feedback loop to consumer sentiment, a prolonged government shutdown to hurt the real economy, and/or for a sharper downturn in China – possibly spurred by a breakdown in the current trade negotiations – to lead to a broader global slowdown.

Regarding China, in keeping with relatively restrained government rhetoric, we do not expect a re-run of the broad based stimulus that was deployed to support the economy in 2008 and 2015. Nevertheless, the language has become materially more accommodative in recent months, targeted tax cuts have been announced and recent data indicate that policy is edging away from the deleveraging emphasis that made it outright restrictive in the first three quarters of 2018.

[6] https://www.icbcstandardbank.com/CorporateSite/ResearchStrategy/Reports

M1 growth yet to accelerate but tentatively bottomed in Q4 2018

Leading indicators of Chinese policy support appear to have bottomed out in H2 2018 but are yet to jump higher



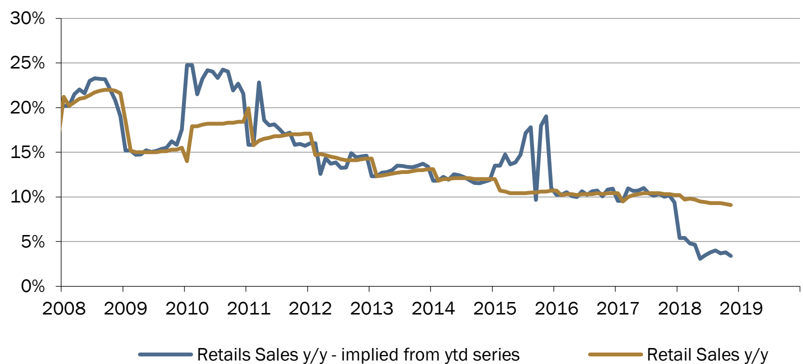
Source: China NBS, PBoC, Bloomberg, ICBC Standard

Specifically, public fixed asset investment (FAI) and M1 growth look to have put tentative bottoms in place during Q4. These two indicators have consistently led the growth cycle, as respective proxies for increased government fiscal outlay and the flow through of looser credit conditions to actual consumer and company expenditure. Neither has yet surged by any means but we take their uptick as an incremental positive.

In terms of the auto sector specifically, 2015 was also when auto sales last registered a significant dip. In response, as part of a broader stimulus package, the government cut sales tax from 10% to 5% for vehicles with engines smaller than 1.6l. It was the expiry of this tax cut at the start of 2018, having been stepped back up to 7.5% in 2017, that took a portion of the blame for last year's sales decline. We think there is some truth in this but that slowing sales have also been reflective of a general softening of consumer sentiment, reflected in broader retail sales growth slowing from above 10% y/y in 2017 to implied levels closer to 3% in recent months.

Slowing Chinese auto sales part of a wider softening in consumer sentiment

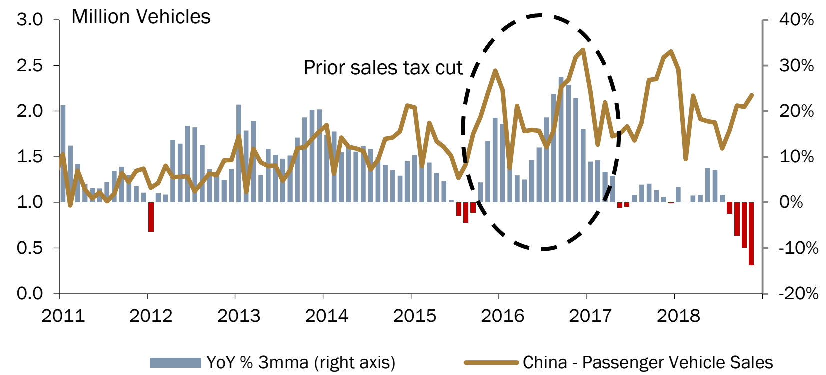
We see a growing likelihood of China repeating their 2015 sales tax cut but expect the impact to be lessened by broader policy conditions



Source: China NBS, Bloomberg, ICBC Standard

Turning to the outlook for 2019, we think there is a growing likelihood that 2015's tax cut will be repeated, as this kind of targeted measure would be in keeping with other recent policy announcements. This should help sales to stabilise and possibly increase by c.2% in 2019 – with growth weighted towards H2 – if other general macro support is stepped up. Nevertheless, we would not expect the kind of consumer reaction that followed 2015's tax cut because that came against a very different backdrop of far more aggressive stimulus measures.

China's car sales tax cut of 2015 is likely to be repeated



Source: China NBS, CAAM, Bloomberg, ICBC Standard.

Current sales dynamics rest on shifting underlying sands

Moving away from the overall sales outlook to underlying changes in market composition, there are four ongoing and potentially upcoming trends that we think it important to highlight:

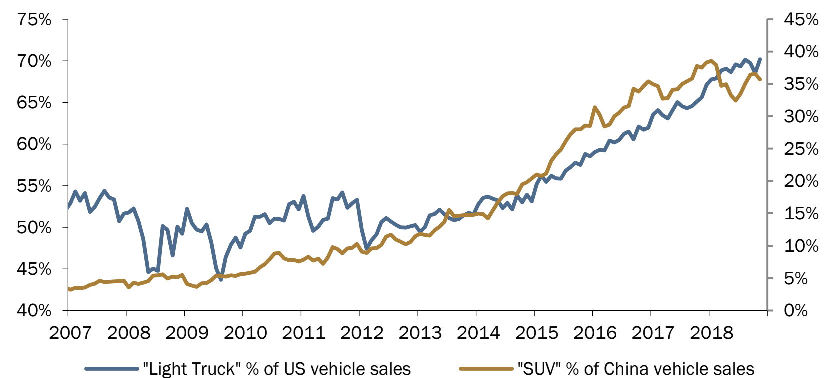
Four key trends to highlight

- The growth of SUV market share in recent years, displacing traditional sedans and station wagons.
- The decline of diesel market share in Europe, the only region in which it had gained significant penetration.
- The transition to alternative fuel sources, so far principally hybrids but also pure battery electric vehicles and, potentially, fuel cells in the future.
- Increased vehicle utilisation, underpinned by ride hailing, sharing and, ultimately, autonomous driving. This being a double edged sword because:
  - Increased utilisation reduces the required stock of vehicles.
  - But means that sales are supported by shorter vehicle lifecycles.

Indeed, it is these kinds of shifts that have led Ford to centre its strategy on "high growth product segments, electrified propulsion, autonomous vehicles, [and] mobility services"[7].

The shift in consumer preference towards SUVs has been far from confined to the US market

Consumer preferences have shifted significantly in recent years



Source: China NBS, CAAM, Wards, Bloomberg, ICBC Standard

The first of these trends may be approaching exhaustion in the US, where 70% of sales now fall into the "light truck" category, but even after rapid recent growth

[7] https://s22.q4cdn.com/857684434/files/doc_news/2019/01/16/Deutsche-Bank-Final.pdf

China's sales share is only at half of this level and other emerging markets have the potential to follow suit as they go first through the stages of greater autos penetration per capita before then increasing vehicle sizes.

The second key trend – the decline of diesel – has been discussed at length in our various PGM reports. The initial shift from diesel to gasoline has been a European phenomenon, whereas the upcoming move away from both forms of pure combustion engine towards hybrids and pure electric powertrains looks set to be a dominant global theme over the next decade.

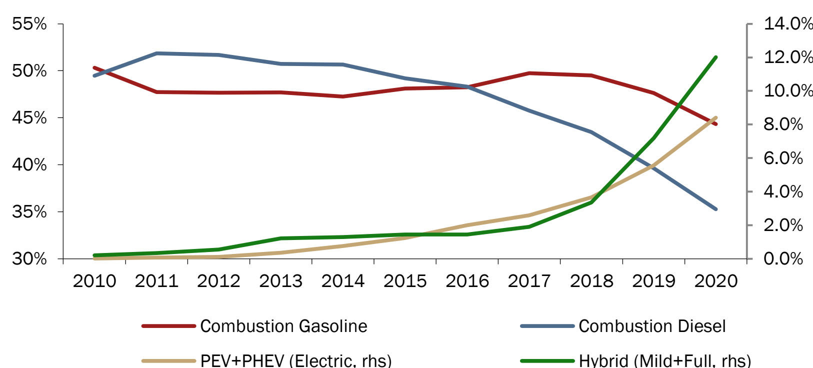
Glencore, for example, included a CRU study[8] in their December 2017 investor update, which estimated the impact of both electric cars and associated infrastructure on copper, nickel and cobalt demand. Specifically, they project that total electric vehicle related copper demand will grow from 391kt in 2020 to 4.08Mt in 2030, while Nickel demand will surge from 86kt to 1.14Mt over the same period.

At the same time, fuel cells have been garnering more attention recently but it should be noted that they only accounted for c.40koz of Platinum demand in 2017, of which less than half was for vehicles. Given China and Japan's aims of adding 250k vehicles combined by 2025, and estimates that current loadings approaching 20g are only likely to be thrifted closer to 10g, this could become a significant source of platinum demand – but only in the long run.

The difficulty with these forecasts, however, is not just the uncertainty around the dominant long-run form of powertrain technology (as discussed in our note "Electric Vehicles – The end of the beginning"[9]) but also this question of utilisation.

European auto assembly by powertrain

Although gasoline has recently benefitted at the expense of diesel, both combustion fuels are set to yield market share into the next decade



Source: PwC Autofacts, ICBC Standard

As PwC Autofacts discuss in their paper "Five trends transforming the Automotive Industry"[10], changes in utilisation add to the uncertainty around long-term sales projections. Specifically, they project a drop in the European car fleet from current levels around 280 million to 200 million by 2030, a decline in the US car fleet from around 270 million at present to 212 million but the Chinese fleet to continue rising from c.200 million to a peak above 300 million in 2027 before it also declines back towards 275 million by 2030.

[8] https://www.glencore.com/dam/jcr:788358b0-f521-4afa-8bd0-8d1ec6c858d6/GLEN-2017-Investor-Update-FINAL-web.pdf

[9] https://www.icbcstandardbank.com/CorporateSite/ResearchStrategy/Reports

[10] https://www.pwc.com/gx/en/industries/automotive/assets/pwc-five-trends-transforming-the-automotive-industry.pdf

There will likely be a point at which greater utilisation crosses-over and turns sales growth negative

In sales terms, these declines in total vehicle fleets should initially be more than offset by higher utilisation of vehicles – both from existing ridesharing and increased automation – leading to shorter replacement cycles. Coupled to this, changes in powertrain and automation technology should spur replacement of vehicles running on existing technologies. Nevertheless, there will likely be a point at which greater utilisation crosses-over and turns sales growth negative. In an extreme long-run scenario laid out by PwC Autofacts, were all journeys to be completed by autonomous "robotaxis", only 14% of the existing vehicle fleet would be required, leading to a potential 50% decline in new sales.

Clearly, such an extreme scenario is a tail risk at present but it serves to highlight the degree of caution which should be exercised when making long-run assumptions about commodity demand from the automotive sector. Moreover, while aggregate annual commodity demand will be determined by the absolute level of sales, investors also need to distinguish between those commodities which have a high degree of demand leverage to very specific future scenarios versus those which should benefit from a general shift towards greater electrification. Nickel, cobalt (NMC/NCA batteries) and platinum (fuel cells) fall into the former category, while copper (general electrification[11]) and tin (solder[12]) sit in the latter. So far, much of the attention has fallen on the earlier group but more defensive investment opportunities may ultimately lie in the latter.

Indeed, after the past decade of strong metals demand growth from the auto industry (the exception being platinum's recent difficulties with European diesel), recent months have seen the sector become a source of concern due to the potential for a broad based slowdown. As discussed above, however, while we do not expect a rapid resurgence in growth, we are relatively sanguine about the likelihood of a sharper slowdown in the coming year.

Looking further ahead, we are reticent to make overly detailed forecasts due to the sheer number of moving parts and fact that the commodities demand outlook will be increasingly influenced by the composition of sales as much as the absolute level.

[11] https://www.bhp.com/media-and-insights/prospects/2017/11/ten-reasons-why-we-like-copper?utm_source=Subscribers&utm_medium=Organic&utm_campaign=Prospects&utm_content=TopReasonsCopper

[12] https://www.riotinto.com/documents/180321_Presentation_Andrew_Latham_Lithium_Battery_Metals_Conference.pdf

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